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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,748	10/01/2003	Chun-Hung Chen	TET-PT045	7927

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EXAMINER

NGUYEN, TANH Q

ART UNIT PAPER NUMBER

2182

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/676,748

Applicant(s)

CHEN ET AL.

Examiner

Tanh Q. Nguyen

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2003 and 22 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 7, 14, 17 are rejected under 35 U.S.C. 102(e) as being anticipated by **Venkitachalam et al. (USP 6,642,863)**.

3. As per claims 1, 7, **Venkitachalam** teaches a sounding apparatus [101, FIG. 1B; col. 3, lines 22-23] for use with a personal computer [105, FIG. 1B; col. 3, lines 27-28], said personal computer inherently comprising a core logic unit, said sounding apparatus comprising:

an external data bus control circuit [104, FIG. 1B; col. 3, lines 25-27] receiving an audio signal from said core logic unit (from the personal computer);

an analog circuit [100, FIGs. 1A, 1B] electrically connected to said external data bus control circuit for converting said audio signal into an analog signal [109, FIG. 1A; col. 3, lines 13-16] and amplifying power of said analog signal [110, FIG. 1A; col. 3, lines 44-46]; and

a speaker [103, FIG. 1B] electrically connected to said analog circuit for sounding in response to said amplified analog signal, wherein said external data bus control

circuit, said analog circuit and said speaker are accommodated in the same housing [101, FIG. 1B; col. 3, lines 22-23].

Venkitachalam further teaches the analog circuit comprising a codec [109, FIG. 1A] for converting said audio signal into said analog signal, and a power amplifier [110, FIG. 1A] for amplifying power of said analog signal.

4. As per claims 14, 17, Venkitachalam teaches a personal computer system [105, 106, 101, FIG. 1B] comprising:

a core logic unit integrating therein a digital audio circuit (a personal computer [105, FIG. 1B; col. 3, lines 27-28] inherently comprising a core logic, the personal computer transmitting digital audio data to a sounding apparatus [FIG. 2C], hence the core logic integrating therein a digital audio circuit);

an external data bus [106, FIG. 1B] in communication with said digital audio circuit of said core logic unit [105, FIG. 1B] for transmitting an audio signal outputted from said digital audio circuit; and

a sounding apparatus [101, FIG. 1B] comprising an external data bus control circuit [104, FIG. 1B; col. 3, lines 25-27] in communication with said external data bus, a codec [100, FIG. 1B] in communication with said external data bus control circuit for converting said audio signal into an analog signal [109, FIG. 1A; col. 3, lines 13-16], a power amplifier [110, FIG. 1A] for amplifying power of said analog signal [col. 3, lines 44-46], and a speaker [103, FIG. 1B] electrically connected to said power amplifier for sounding in response to said amplified analog signal, said external data bus control

circuit, said codec, said power amplifier and said speaker being accommodated in the same housing [101, FIG. 1B; col. 3, lines 22-23].

Venkitachalam further teaches the external data bus being a USB [106, FIG. 1B], which is hot plug-unplug and has a function of universal plug and play (UPnP).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 3-6, 8, 9-13, 16, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Venkitachalam et al.**.

8. As per claims 3, 4, 6, Venkitachalam teaches the claimed invention except for the

audio signal being transmitted from the core logic unit to the external data bus control circuit via an external data bus socket electrically connected to the core logic unit and an external data bus connector electrically connected to the sounding apparatus.

Since it was known in the art at the time the invention was made to use a connector to connect a peripheral device to a socket of a computer, the socket being connected to a core logic, and the connector being connected to the peripheral device to allow for communication between the computer and the peripheral device, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the core logic unit (of the personal computer) to be electrically connected to an external data bus socket, and for the sounding apparatus to be electrically connected to an external data bus connector - in order to allow the core logic unit to communicate with the sounding apparatus, hence allowing the audio signal to be transmitted from the core logic unit to the external data bus control circuit of the sounding apparatus.

Venkitachalam further teaches the external data bus being a USB [106, FIG. 1B], hence the external data bus connector being a USB connector, the USB connector being hot plug-unplug and having a function of universal plug and play (UPnP); and the external data bus control circuit being a USB control circuit [104, FIG. 1B].

9. As per claim 5, Venkitachalam teaches the claimed invention except for the external data bus connector and the external data bus control circuit being an IEEE 1394 signal bus connector and an IEEE 1394 signal bus control circuit, respectively.

Since it was known in the art at the time the invention was made that the IEEE 1394 bus is a faster bus than a USB bus, it would have been obvious to one of ordinary

skill in the art at the time the invention was made to use an IEEE 1394 bus (hence an IEEE 1394 signal bus connector and an IEEE 1394 signal bus control circuit) to improve communication between the sounding apparatus and the personal computer.

10. As per claim 8, Venkitachalam teaches the claimed invention except for the codec complying with the architecture of Audio Codec 97.

Since Audio Codec 97 architecture for audio applications is prevalent at the time the invention was made, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the codec to comply with the architecture of Audio Codec 97 to be compatible with such applications.

11. As per claim 9, Venkitachalam teaches a sounding apparatus [101, FIG. 1B; col. 3, lines 22-23] for use in a personal computer system [105, 106, 101, FIG. 1B], said personal computer system conducting an external data bus [106, FIG. 1B], said sounding apparatus comprising:

an external data bus control circuit [104, FIG. 1B; col. 3, lines 25-27] electrically connected to said personal computer system, and processing an audio signal received from said personal computer system via said external data bus;

a codec [100, FIGs. 1A, 1B] electrically connected to said external data bus control circuit for converting said audio signal into an analog signal [col. 3, lines 13-16];

a power amplifier [110, FIG. 1A; col. 3, lines 44-46] for amplifying power of said analog signal; and

a speaker [103, FIG. 1B] electrically connected to said power amplifier for

sounding in response to said amplified analog signal.

Venkitachalam, therefore, teaches the claimed invention except for the personal computer system comprising an external data bus socket, and the sounding apparatus comprising an external data bus connector electrically connected to the external data bus control circuit and plugged in the external data bus socket of the computer system.

Since it was known in the art at the time the invention was made to use a connector to connect a peripheral device to a socket of a personal computer and for the connector to be connected to the peripheral device to allow for communication between the personal computer and the peripheral device, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the personal computer system of Venkitachalam to comprise an external data bus socket (i.e. for the personal computer to comprise an external data bus socket), and for the sounding apparatus to comprise an external data bus connector electrically connected to the external data bus control circuit and plugged in the external data bus socket of the personal computer - in order to allow the personal computer to communicate with the sounding apparatus.

12. As per claims 10-11, Venkitachalam further teaches the external data bus control circuit, the codec, the power amplifier and the speaker being enclosed with the same housing [101, FIG. 1B; col. 3, lines 22-23];

the external data bus being a USB [106, FIG. 1B], hence the external data bus connector being a USB connector; and the external data bus control circuit being a USB control circuit [104, FIG. 1B].

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13. As per claims 12, 18, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an IEEE 1394 bus (hence an IEEE 1394 signal bus connector and an IEEE 1394 signal bus control circuit) to improve communication between the sounding apparatus and the personal computer (see rejection of claim 5 above) - the IEEE 1394 signal bus also being hot plug-unplug and having a function of UpnP.

14. As per claims 13, 16, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the digital audio circuit and the codec to comply with the architecture of Audio Codec 97 to be compatible with Audio Codec 97 applications (see the rejection of claim 8 above).

15. Claims 9, 12-13 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over **Kishon (USP 6,356,968)**.

16. As per claim 9, **Kishon** teaches a sounding apparatus [700, FIG. 7] for use in a personal computer system [102, 170, FIG. 1], said personal computer system comprising an external data bus socket [116, FIG. 1; col. 4, line 47] for conducting an external data bus [1394, FIG 1], said sounding apparatus comprising:

an external data bus connector [1394 PHY on host interface side: col. 7, lines 37-42] plugged in said external data bus socket [116, FIG. 1; col. 4, line 47];

an external data bus control circuit [706, FIG. 7] electrically connected to said external data bus connector [col. 7, lines 37-42], and processing an audio signal

received from said personal computer system via said external data bus [col. 7, lines 42-46];

a codec [AC '97 CODEC, FIG. 7; col. 8, lines 17-19] electrically connected to said external data bus control circuit for converting said audio signal into an analog signal (a codec being A/D and D/A converters); and

a speaker electrically connected to said codec for sounding in response to codec analog signal [col. 8, lines 17-19].

Kishon, therefore, teaches the claimed invention except for a power amplifier for amplifying power of the analog signal prior to providing the signal to the speaker.

Since it was known in the art at the time the invention was made to include a power amplifier between a codec and a speaker for amplifying a codec analog signal prior to providing the analog signal to the speaker, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a power amplifier between the codec and the speaker in Kishon's system - in order to amplify the codec analog signal prior to providing the analog signal to the speaker.

17. As per claims 12-13, Kishon teaches the external data bus connector being an IEEE 1394 signal bus connector [1394 PHY; col. 7, lines 37-42], and the external data bus control circuit being an IEEE 1394 signal bus control circuit [706, FIG. 7];

the codec complying with Audio Codec 97 architecture [AC 97 CODEC, FIG. 7].

18. Claims 2 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Venkitachalam et al.** in view of **AAPA (Applicant Admitted Prior Art)**.

Venkitachalam teaches the claimed invention except for the core logic including a south bridge chip integrating therein a digital audio circuit.

**AAPA** teaches a core logic [12, FIG. 2] including a south bridge chip [12, FIG. 2] integrating therein a digital audio circuit [141, FIG. 2] for processing digital audio signals [[0002], lines 9-11] and providing the processed digital audio signals to a codec [142, FIG. 2].

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the core logic to include a south bridge chip integrating therein a digital audio circuit, as is taught by AAPA, in order to process digital audio signals and provide processed digital audio signals to the codec of the sound apparatus.

### ***Conclusion***

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Quang Nguyen whose telephone number is (571) 272-4154 and whose e-mail address is [tanh.nguyen36@uspto.gov](mailto:tanh.nguyen36@uspto.gov). The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin, can be reached on (571) 272-2100. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306 for After Final, Official, and Customer Services, or (571) 273-4154 for Draft to the Examiner (please label "PROPOSED" or "DRAFT").

Effective May 1, 2003 a new mailing address is:

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06/11/2005

TQN  
June 11, 2005